

JOB TITLE: Engineer I  
EMPLOYEE:  
VRC: Kyle Pletz

DOT #: 922.687-054  
CLAIM #



## **KING COUNTY ON SITE JOB ANALYSIS**

**JOB TITLE** Engineer I

**JOB CLASSIFICATION** Engineer I

**DOT TITLE** Sample Gatherer

**DOT NUMBER** 922.687-054

**DEPARTMENT** Natural Resources and Parks

**DIVISION** Solid Waste

**# OF POSITIONS IN THE DEPARTMENT WITH THIS JOB TITLE** 2

**JOB STATUS**

Full Time, Career Service.

**ADDRESS OF WORKSITE**

16645 228<sup>th</sup> Ave SE  
Maple Valley, WA 98038

**CONTACT'S NAME** Pam Badger

**CONTACT'S PHONE** 206-296-8441

**EMPLOYER JOB TITLE** Environmental Programs Managing Supervisor

**DATE COMPLETED** 5/16/02

**VRC NAME** Jeff Casem

**DATE REVISED** 5/28/09

**WORK HOURS** 6:00am to 2:30pm Monday through Friday.

**OVERTIME**

Frequently, on a weekly basis, for a total of 50-100 hours per year.  
Fair Labor Standards Act, Non-Exempt (hourly).

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### **JOB DESCRIPTION**

Collect groundwater, surface water and leachate samples from regional and rural landfills using a variety of sampling methods and equipment. Perform basic chemical analysis of samples and calculate water table elevations and well volumes. Transport samples to Seattle area laboratory. Monitor landfill gas probes and onsite structures for methane. Assist surveyor in landfill surveying tasks. Maintain and calibrate a diverse selection of instruments and tools. Perform data entry assistance, and assists Engineers and Senior Engineers with environmental data analysis. This position also requires working in all weather conditions, on steep and uneven terrain, lifting, pulling and carrying heavy items.

### **ESSENTIAL ABILITIES FOR ALL KING COUNTY JOB CLASSIFICATIONS**

1. Ability to demonstrate predictable, reliable, and timely attendance.
2. Ability to follow written and verbal directions and to complete assigned tasks on schedule.
3. Ability to read, write & communicate in English and understand basic math.
4. Ability to learn from directions, observations, and mistakes, and apply procedures using good judgement.
5. Ability to work independently or part of a team; ability to interact appropriately with others.
6. Ability to work with supervision, receiving instructions/feedback, coaching/counseling and/or action/discipline.

### **JOB SPECIFIC REQUIREMENTS**

One year experience demonstrating the ability to perform the essential functions of the job. Must possess a valid Washington State Driver's license and successfully complete a pre-employment physical examination.

### **ESSENTIAL FUNCTIONS Listed in order of importance**

1. Collect groundwater, surface water, and leachate samples.
2. Perform landfill gas probe and ambient gas monitoring.
3. Perform basic chemical analysis of samples including: pH, temperature, specific conductance, redox, dissolved oxygen, turbidity free chlorine and sulfide.
4. Collect static groundwater levels, and calculate elevations of groundwater table.
5. Locate and read staff gauges. Estimate stream flow volume.
6. Calculate groundwater well volumes and statistically compare water quality parameters to determine when stability occurs during well purging.
7. Operate, calibrate, and troubleshoot equipment such as: water level indicators, flow meters, composite samplers, landfill gas meters (infrared and flame ionization detectors), pump control boxes, pH meters, dissolved oxygen meters, and others..
8. Knowledge of how to work safely with large cylinders of compressed gases, combustible gases, strong acids, strong bases and corrosive chemicals,

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9. Act as assistant to party chief in land surveying activities.
10. Must have familiarity with plans and map reading, Autocad and GPS systems
11. Provide data analysis assistance to Engineer II and Engineer III for evaluation of field and lab data for the quarterly and annual reports.
12. Conduct routine site inspections as assigned such as semi-annual storm water inspections for National Pollutant Discharge Elimination System (NPDES) permit compliance and general environmental conditions at solid waste facilities
13. Perform database entry and quality assurance reviews.
- 14..

### **TOOLS, MACHINES, EQUIPMENT, PRODUCTS, AND SERVICES USED**

Four wheel drive pickup with a van body, four-wheel drive hybrid Sports Utility Vehicle (SUV), computers (desktop, laptop and thin client), cellular phone, 2-way radio, fax machine, copy machine, coolers, sample bottles, strong acids, bases, corrosive chemicals, 5-gallons buckets of ice, 160 pound compressed nitrogen gas tanks, 160 pound compressed hydrogen gas tanks, landfill gas calibration tanks, regulators, flowmeters, filters, triple gas meters, toxic gas meters, infrared gas meters, flame ionization gas meters, pump control boxes pumps, composite samplers, peristaltic pumps, bailers, pH meters, conductivity meters, dissolved oxygen meters, turbidity meters, label printers, water level indicators, backpack, machete, manhole hook, digging bar, tripod, prism rod, stadia, 3 pound hammer, hubs, lath, weed-eater, buck saw and various hand tools.

### **PHYSICAL DEMANDS AS JOB IS TYPICALLY PERFORMED**

Continuously = occurs 66-100% of the time

Frequently = occurs 33-66% of the time

Occasionally = occurs 1-33% of the time

Rare = may occur less than 1% of the time

Never = does not ever occur (such demands are not listed)

### **This job is classified as**

Light per DOT, but heavy in this particular position.

### **Standing**

Continuously on flat carpet and flat linoleum as well as undeveloped, uneven, steep, rough and thick vegetation surfaces for up to 30 minutes at a time for up to 6 hours total in a work shift. Most commonly occurs while collecting water and gas samples and performing well maintenance..

### **Walking**

Occasionally on flat carpet and flat linoleum as well as undeveloped, uneven, steep, rough and thick vegetation surfaces for distances of up to ¼ mile for up to 30 minutes at a time for up to 2 hours total in a work shift. Most commonly occurs while performing survey duties. On a rare occasion (once per year) the

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employee may need to perform a serpentine walk that includes walking up to 23 miles in 3 days for up to 8 hours per day.

### **Sitting**

Continuously on an automobile seat, 5 gallon bucket or office chair for up to 1.5 hours at a time for up to 7 hours total in a work shift. Most commonly occurs while driving, performing computer work, and sitting on a bucket while collecting groundwater samples.

### **Climbing stairs**

Occasionally for up to 5 minutes at a time while climbing 40 steps for up to 10 minutes total in a work shift. Most commonly occurs while walking between the parking lot and work area, entering and exiting the work truck and when walking on trails.

### **Climbing**

Occasionally for up to 2 hours total in a work shift, while collecting surface water samples. Rarely to heights of 3 feet for up to 5 seconds at a time and up to 5 minutes total in a work shift. Most commonly occurring while entering and exiting the van body section of the truck.

### **Balancing**

Occasionally on flat carpet and flat linoleum as well as undeveloped, uneven, steep, rough and thick vegetation surfaces for up to 30 minutes at a time for up to 2 hours total in a work shift. Most commonly occurs while collecting surface water samples and survey work.

### **Bending/Stooping**

Occasionally on flat carpet and flat linoleum as well as undeveloped, uneven, steep, rough and thick vegetation surfaces for up to 40 minutes at a time for up to 2 hours total in a work shift. Most commonly occurs while collecting water and gas samples, performing field tests, and removing/placing equipment in camper.

### **Kneeling**

Occasionally on undeveloped, uneven, steep, rough, wet and thick vegetation surfaces for up to 5 minutes at a time for up to 30 minutes total in a work shift. Most commonly occurs while manipulating flush mount gas probes.

### **Crouching**

Occasionally on undeveloped, uneven, steep, rough and thick vegetation surfaces for up to 10 seconds at a time for up to 30 minutes total in a work shift. Most commonly occurs while conducting surface water sampling duties.

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**Operating Controls with Feet**

Frequently for up to 1.5 hours at a time for up to 4 hours total in a work shift while driving a 4 wheel drive pickup truck with a van body and an automatic transmission.

**Reaching above shoulder height**

Occasionally for up to 10 seconds at a time for up to 15 minutes total in a work shift while placing and removing objects on laboratory shelves and overhead compartments in the back of the work truck.

**Reaching at waist to shoulder height**

Continuously for up to 2.5 hours at a time for up to 7 hours total in a work shift while driving as well as performing computer duties or while pulling pumps out of groundwater wells or collecting static water level measurements.

**Reaching at knee to waist height**

Occasionally for up to 1.5 hours at a time for up to 3 hours total in a work shift while filling sample bottles.

**Reaching at floor to knee height**

Occasionally for up to 5 seconds at a time for up to 35 minutes total in a work shift while manipulating flush mount gas probes and sample bottles as well as placing and removing objects from a cooler.

**Lifting 1-10 pounds**

Occasionally for up to 10 minutes at a time for up to 1.5 hours total in a work shift. Most commonly occurs with weights of 6 pounds while using the water level indicator as well as the landfill gas analyzer.

**Carrying 1-10- pounds**

Rare for distances of up to 5 feet for up to 5 seconds at a time and up to 5 minutes total in a work shift. Most commonly occurs with weights of 3-5 pounds while manipulating a regulator as well as using an oxygen meter or a turbidity meter.

**Lifting 11-20 pounds**

Frequently for up to 5 minutes at a time for up to 3.5 hours total in a work shift. Most commonly occurs with weights of 17 pounds while using the water testing equipment.

**Carrying 11-20 pounds**

Continuously for distances of up to ¼ mile for up to 30 minutes at a time for up to 6 hours total in a work shift. Most commonly occurs with weights of 15-20 pounds while transporting a water tester or a backpack containing 2 gallons of water.

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**Lifting 21-50 pounds**

Occasionally for up to 10 seconds at a time for up to 10 minutes total in a work shift. Most commonly occurs with weights of 35-50 pounds while moving a cooler with samples in it, a box containing 3 gallons of water, and the metal step on the back of the work truck..

**Carrying 21-50 pounds**

Occasionally for distances of up to ¼ mile for up to 30 minutes at a time and up to 40 minutes total in a work shift. Most commonly occurs with weights of 25-35 pounds while transporting surface water samples or a control box.

**Lifting 51-100 pounds**

Rare for up to 5 seconds at a time for up to 2 minutes total in a work shift. Most commonly occurs with weights of 60-70 pounds while moving a cooler filled with ice and samples.

**Carrying 51-100 pounds**

Rare for distances of up to 5 feet for up to 5 seconds at a time and up to 2 minutes total in a work shift. Most commonly occurs with weights of 60-70 pounds while transporting a cooler filled with ice and samples.

**Pushing and Pulling**

Occasionally for distances of up to 40 feet for up to 2 minutes at a time with a force of up to 30 pounds and up to 10 minutes total in a work shift. Most commonly occurs while pushing coolers containing samples and ice in and out of the camper as well as pushing and pulling them on a hand truck to and from the laboratories. Occasionally for distances of up to 15 feet for up to 2 minutes at a time with enough force to move 160-pound tanks of compressed gas to/from storage rack and the back of work truck.

**Handling**

Continuously for up to 2.5 hours at a time for up to 7 hours total in a work shift while manipulating sample bottles, driving, using gas testing instruments, and using a machete when walking through thick brush.

**Operating Controls with Hands**

Continuously for up to 2.5 hours at a time for up to 7 hours total in a work shift while driving, adjusting regulators and using testing equipment.

**Fingering**

Continuously for up to 45 minutes at a time for up to 7 hours total in a work shift while typing, using test equipment, clicking the computer mouse, writing as well as repairing probes and valves.

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**Talking**

Occasionally for up to 30 minutes at a time for up to 2 hours total in a work shift while using a telephone or 2-way radio as well as conversing with co-workers and citizens.

**Hearing**

Continuously for up to 2.5 hours at a time for up to 7 hours total in a work shift while conversing with co-workers and citizens, listening for mechanical failure of pumps, driving, as well as listening for wildlife and dangers when walking through densely wooded areas.

**Tasting/Smelling**

Occasionally for up to 10 minutes at a time for up to 30 minutes total in a work shift while smelling water samples, smelling for gas leaks, and identifying potential hazards.

**Near acuity—clarity of vision at 20 inches or less**

Continuously for up to 2.5 hours at a time for up to 7 hours total in a work shift while looking at samples, gauges, documents and a computer screen.

**Far acuity—clarity of vision at 20 feet or more**

Frequently for up to 1.5 hours at a time for up to 5.5 hours total in a work shift while driving and identifying locations of wells.

**Depth perception—three dimensional vision**

Continuously for up to 2.5 hours at a time for up to 7 hours total in a work shift while walking through densely wooded areas, driving and filling sampling bottles.

**Color vision—ability to identify and distinguish colors**

Occasionally for up to 10 minutes at a time for up to 10 minutes total in a work shift while performing colorimetric tests.

**Field of vision—observing an area that can be seen up and down or right or left while eyes are fixed on a given point**

Continuously for up to 2.5 hours at a time for up to 7 hours total in a work shift while identifying safety hazards such as moving vehicles or wildlife.

**Night vision--seeing after sundown with minimal or no supplemental light sources**

Occasionally for up to 3 hours at a time for up to 3 hours total in a work shift while working before sunrise in the winter months.

**TEMPERAMENTS**

Directing, controlling, or planning activities of others: Occasionally  
Performing repetitive or short-cycle work: Continuously

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Influencing people in their opinions, attitudes, and judgements: Occasionally  
Performing a variety of duties: Continuously  
Working alone or apart in physical isolation from others: Continuously  
Working effectively under stress: Occasionally  
Attaining precise set limits, tolerances, and standards: Continuously  
Working under specific instructions: Continuously  
Working with others: Occasionally  
Making judgements and decisions: Occasionally

### **ENVIRONMENTAL FACTORS**

Work is performed in multiple indoor and outdoor settings including laboratory, office, operating and closed landfills, transfer stations and other remote locations.. Surfaces include flat carpet, flat linoleum, flat concrete, undeveloped land as well as uneven, steep and rough terrain and thick vegetation. Employee drives on unimproved roads that require the use of a four-wheel drive vehicle. The noise level is quiet to moderately loud.

### **Workers are exposed to**

Outside weather: Continuously  
Extreme cold: Occasionally  
Wet: Continuously  
Humidity/dampness: Continuously  
Fumes: Occasionally  
Odors: Frequently- Continuously  
Dusts: Frequently  
Gases: Occasionally  
Moving mechanical parts: Rare  
Vibration: Frequently  
Working in high, exposed places; Rare  
Toxic or caustic chemicals: Occasionally

### **POTENTIAL MODIFICATIONS TO JOB**

Walking stick to assist balance when walking on uneven terrain.

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Signature & title of evaluator

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Date

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Signature & title of contact

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Date

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Signature & title of employee

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Date



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### HEALTH CARE PROVIDER SECTION

Check all that apply

☐ The employee is released to perform the described duties without restrictions on performance or work hours.

☐ The employee is released to perform the described duties on a reduced schedule. The recommended schedule is:

\_\_\_\_\_

☐ Temporary until \_\_\_\_\_ ☐ Permanent as of \_\_\_\_\_

☐ The employee is released to perform the described job with the following modifications:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

☐ Temporary until \_\_\_\_\_ ☐ Permanent as of \_\_\_\_\_

☐ The employee is not released to perform the described duties due to the following job functions:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

☐ Temporary until \_\_\_\_\_ ☐ Permanent effective \_\_\_\_\_

☐ The employee is unable to work in any capacity.  
A release to work is: ☐ anticipated by \_\_\_\_\_ ☐ Not expected

The limitations are due to the following objective medical findings:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Printed or typed name and phone number of Health Care Provider

\_\_\_\_\_  
Signature of Health Care Provider

\_\_\_\_\_  
Date